

REMARKS

Claims 70-100 are pending in the present application. In the Office Action dated November 16, 2006, claims 70, 71, 73, 85, 86, 90, and 91 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,647,989 to Hayashi et al. ("Hayashi"). Claims 70, 71, 85, 86, and 90 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,106,728 to Iida et al. ("Iida"). Claims 72, 75, and 76 were rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Iida. Claims 73, 74, 77-84, 87-89 and 91-100 were rejected under 35 U.S.C. 103(a) as being unpatentable over Iida in view of Hiyashi. Claims 72, 74-88 and 92-100 were rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Iida.

Applicant notes that, to date, the Forms PTO-1449 from the Information Disclosure Statements filed April 1, 2004 and December 1, 2005, have not been initialed and returned.

The Applicant would like to thank the Examiner for the interview conducted on February 21, 2007. The Applicant and Examiner discussed the fact that, in one embodiment of the application, the apparatus has two separate fresh slurry solutions which are filtered separately and then combined. The Examiner agreed that so long as the claims describe these limitations, it would likely overcome the prior art of record.

The embodiments disclosed in the present application will now be discussed in comparison to the cited references. Of course, the discussion of the disclosed embodiments, and the discussion of the differences between the disclosed embodiments and the cited references, does not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claim distinctions discussed thereafter.

In one embodiment of the present invention, two separate slurry solutions that have not been used to planarize a microelectronic substrate (i.e. fresh slurry) are maintained by separate supplies and feed lines. In addition, each of the slurry solutions is filtered while the solutions are separate. After the filter step, the separate solutions are combined in a combination feed line.

The Examiner cited the Hayashi reference. The Hayashi reference discloses a planarizing apparatus including a slurry manufacturing assembly for recycling used planarizing

solution. The Examiner contends that the Hayashi reference discloses a slurry manufacturing assembly including a first feed line (line 7), a second feed line (line 11), a first removal unit (filter 1), a combination feed line (exiting tank 4), and a slurry dispenser 17. Figure 1 shows a filtering process for spent (recycled) slurry. It shows the recycled slurry in line 7 being filtered by filter 1, then placed into an intermediate storage 4, where the same recycled slurry is filtered a second time by filter 2, and again the recycled slurry is placed back into intermediate storage 4 by line 11. Therefore, the recycled slurry is not only not fresh, but also, the two solutions are not separate, filtered separately and then combined. The slurry solution in the first feed line (line 7) is the same slurry solution in the second feed line (line 11). Therefore, the Hayashi reference does not disclose or fairly suggest the first solution being separate from the second solution, filtering the solutions separately, and combining the filtered solutions.

The Examiner cited the Iida reference. The Iida reference discloses a planarizing apparatus including a slurry manufacturing assembly used for recycling used planarizing solution. The Examiner contends that Figure 1 of the Iida reference discloses a slurry manufacturing assembly including a first feed line (Fp line), a second feed line 54, a first removal unit 4, a combination feed line (S leaving tank 52), and a slurry dispenser 301. Similar to the Hayashi reference, the Iida reference discloses filtering a recycled slurry. In addition, the second feed line 54 does not contain a solution with abrasive particles. Rather, second feed line 54 is used to add either alkaline agents or acidic agents. *Iida Specification*, column 6, lines 4-17. Even assuming the second feed line contains a solution with abrasive particles, the solution is not filtered before combining it with the first filtered solution. Rather, the Iida reference teaches away from filtering two individual solutions separately and then combining the solutions because it teaches filtering the solution after the two solutions have been combined using filter 7. *Id.* at column 6, lines 37-42 and Figure 1. Therefore, the Iida reference does not disclose or fairly suggest two separate solutions being filtered separately and then combining the filtered solutions.

Turning now to the claims, the patentably distinct differences between the cited references and the claim language will be specifically pointed out. Presently amended independent claim 70 recites, in part, a first supply of a first solution that has not been used to planarize a substrate and having a plurality of first abrasive particles and a *separate* second solution that has not been used to planarize a substrate and having a plurality of second abrasive particles, the first and second supply in fluid communication with a first and second feed line,

respectively. (See claim) (Emphasis added). The Hayashi reference does not disclose or fairly suggest *separate* first and second solutions. Rather, as alluded to above, the Hayashi reference has two supply solutions, where the second solution is the same solution as the first solution just further down the line. In addition, neither the Hayashi reference or the Iida reference disclose solutions that have not been previously used before. In fact, both the Hayashi and the Iida references disclose a recycled slurry.

In addition, claim 70 recites, in part, a first and second removal unit coupled to the first and second feed line, respectively, and a combination feed line in fluid communication with both removal units to receive a flow of each solution where the filtered flow of the first solution is *separate* from the filtered flow of the second solution. (See claim) (Emphasis added). Neither the Hayashi nor the Iida references disclose the above limitation. Again, the Hayashi reference discloses filtering the same recycled solution at two separate steps. The Iida reference discloses filtering the recycled solution, mixing it with a separate solution, and filtering the solution after the two solutions are combined. In fact, this teaches away from filtering the solutions *separately* and then combining the solutions. Therefore, presently amended claim 70 is allowable over the Hayashi and Iida references.

Presently amended claim 90 is directed to a planarizing apparatus including a slurry manufacturing assembly of claim 70 and is, therefore, patentable for at least the same reasons that 70 is patentable.

Claims depending from claims 70 and 90 are also allowable due to depending from an allowable base claim and further in view of the additional limitations recited in the dependent claims.

All of the claims remaining in the application are clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

DORSEY & WHITNEY LLP

A handwritten signature in black ink, reading "Edward W. Bulchis". The signature is fluid and cursive, with the first name "Edward" being more prominent than the last name "Bulchis".

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